Secondary thickening in pteridophytes.—The known cases of secondary thickening in recent Pteridophyta have been brought together by HILL[23] in a useful résumé. After stating the criteria for secondary growth, Botrychium, which has a distinct cambium, and Ophioglossum, which lacks a definite layer, are described, followed by Angiopteris and Marattia, in which a cambium forms a few xylem elements. CORMACK'S observations on the secondary wood in the nodes of Equisetum are cited, though no reference is made to the cambium in the young cone as reported by JEFFREY.[24] The other cases of secondary growth include Psilotum, *Selaginella spinulosa*, and several species of Isoetes, especially *I. hystrix*, which may show a cambium outside the vascular cylinder.—M. A. CHRYSLER.

The cell wall.—Whether isolated portions of protoplasm without nuclei are capable of surrounding themselves with walls or not has long been in dispute. Nearly twenty years ago PALLA claimed that isolated portions of protoplasm could still form membranes. Later observers claimed that the non-nucleate fragments might still be connected with nucleated portions of the protoplasm by connecting fibers. Studies of the rhizoids of *Marchantia polymorpha* and the stinging hairs of *Urtica dioica* bring PALLA[25] to reassert his original view that non-nucleate portions of protoplasm can form membranes. He admits, however, that the portions of protoplasm must contain, as reserve substance, a material which can be used in building up a wall.—CHARLES J. CHAMBERLAIN.

South African cycads.—PEARSON[26] has begun the publication of a series of field notes on South African cycads, which promise to be of great interest. The first paper deals with *Encephalartos Friderici Guilielmi*, *E. Altensteinii*, *E. villosus*, and an unnamed species of Stangeria. A summary of the observations is as follows: subterranean branching is a marked feature of the first-named species and of Stangeria; in the first two species of Encephalartos the strobili are lateral, occurring in cycles of three to six about the vegetative apex, which continues the growth of the stem; there is evidence that strobili are produced much more freely in exposed than in shaded situations; it is probable that entomophily occurs in *E. villosus*.—J. M. C.

Apogamy in Elatostema.[27]—TREUB adds *Elatostema acuminatum* (Urticaceae) to the increasing list of plants in which apogamy has been described.

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[23] HILL, T. G., On secondary thickening in recent Pteridophyta. New Phytologist **5**:208–214. 1906.

[24] JEFFREY, E. C., The development, structure, and affinities of the genus Equisetum. Mem. Boston Soc. Nat. Hist. **5**:155–190. *pls. 26–30*. 1899.

[25] PALLA, E., Ueber Zellhautbildung kernloser Plasmateile. Ber. Deutsch. Bot. Gesells. **24**:408–414. *pl. 19*. 1906.

[26] PEARSON, H. H. W., Notes on South African Cycads. I. Trans. S. African Phil. Soc. **16**:341–354. *pls. 6–8*. 1906.

[27] TREUB, M., L'apogamie de l'*Elatostema acuminatum* Brogn. Ann. Jard. Bot. Buitenzorg **20**:141–152. *pls. 4–11*. 1906.

The early stages in the development of megaspores and also in the germination of the megaspore are normal; but a typical egg apparatus is not differentiated. The evidence that embryos are formed without fertilization is conclusive, but the evidence that some of the embryos may not come from nuclear tissue is not so conclusive. TREUB claims that the embryos come from contents of the embryo sac, but not from the egg, and consequently he uses the term apogamy rather than parthenogenesis.—CHARLES J. CHAMBERLAIN.

Anatomical classification of ferns.—FERNAND PELOURDE[28] has attempted to discover an anatomical basis of classification for the ferns. A great amount of detailed structure is described, and, like every other attempt to use one kind of character, the result is a readjustment of some of the old taxonomic lines. The genera represented in France are described upon this new basis, but its application to a wider range of forms remains to be demonstrated. As an addition of certain characters, to be used in connection with all other available characters, the research is a contribution; but as presenting a set of determining characters it can hardly be accepted at this late day.—J. M. C.

Nomenclature of desmids.—NORDSTEDT[29] has proposed the following rules of nomenclature for the desmids: (1) The nomenclature begins with RALFS, *British Desmidieae*, 1848; (2) The authors of names given earlier and accepted by RALFS must always be cited. It is also suggested that standard works for other groups of algae may be used in the same way, as for instance: HIRN, *Monographie und Iconographie der Oedogoniaceen*, 1900; BORNET et FLAHAULT, *Revision des Nostocacées hétérocystées contenues dans les principaux herbiers de France*, 1886–88; GOMONT, *Monographie des Oscillariées (Nostocacées homocystées)*, 1893.—J. M. C.

Chestnut disease.—In two additional papers MURRILL[30] emphasizes the unusual destructiveness of a disease of the American chestnut first made known by him. This disease is so virulent that it threatens to destroy all the chestnut trees in New York City and perhaps over large areas. The cause of the trouble is a species of Diaporthe newly described as *D. parasitica*. From observations and from experiments it is evident that the fungus attacks the trees only by the way of wounds. Attempts to infect young uninjured twigs and unfolding leaves gave negative results. No satisfactory treatment has as yet been found.—H. HASSELBRING.

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[28] PELOURDE, FERNAND, Recherches anatomique sur la classification des fougères de France. Ann. Sci. Nat. Bot. IX. **4**:261–372. *figs. 80.* 1906.

[29] NORDSTEDT, C. F. O., The starting point of the nomenclature of desmids. Botaniska Notiser **1906**:97–118.

[30] MURRILL, W. A., A new chestnut disease. Torreya **6**:186–189. 1906.

———, Further remarks on a serious chestnut disease. Jour. N. Y. Bot. Garden **7**:203–211. *figs. 25–30.* 1906.